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The Maryland Agricultural College Bulletin

THE EXTENSION SERVICE.

INCLUDING A SUMMARY
OF THE WORK AND NEEDS OF THE
AGRICULTURAL COLLEGE AND EXPERIMENT
STATION.

ISSUED QUARTERLY BY THE
MARYLAND AGRICULTURAL COLLEGE,
COLLEGE PARK, MD.

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July 16, 1894.

MARYLAND'S POSSIBILITI

The net return from her 50,000 farms should be

Her two millions of acres of uncultivated and could be increased in value tenfold.

Her average yield of corn could be increased tw acre, and this would give to the farmers nearly dollars more per year.

One pint more milk per cow per day would give the dairymen over one million dollars more for their labor each year.

Unused hill land could be turned into pastures that would feed at least a half million sheep.

Maryland can be made the greatest fruit State in the East. Land suitable for orchard fruits that now sells for $10 to $30 per acre can be made worth $150 to $300 per acre.

OTHER CROPS CAN BE DEVELOPED PROPORTIONALLY

Maryland's soil, climate and location are exceptionally well fitted for growing food for man. She has ten million consumers in the cities and towns located at her doors.

NO STATE IN THE UNION HAS AS GOOD MARKETS

The consumers should pay less for food and the producers get more for their products than at present. Co-operation between buyer and seller will make this possible.

More profit in farming will attract settlers and increase land values.

The water-power that is going to waste on thousands of Maryland farms should be harnessed and made to lighten and do much of the farm labor.

Maryland should rank first as a state of prosperous farms and pleasant homes.

Her 200,000 growing boys and girls are entitled to as good educational facilities as other States provide for their children. They should be trained to make the most of these possibilities.

The first-class equipment of your Agricultural College for education, investigation and the demonstration of these possibilities would be the greatest factor the State could have for bringing about these desired results.

LET US HAVE A GREATER STATE THROUGH A GREATER AGRICULTURE, AND A GREATER AGRICULTURE THROUGH A GREATER AGRICULTURAL COLLEGE.

To the People of Maryland

WE place ourselves on record as urging you to provide for the full development of your agricultural interests through the permanent and substantial endowment of your Agricultural College and Experiment Station. It is a business investment that you cannot at the present time by any means afford to overlook. We know that Maryland is an agricultural State. We know that her possibilities for agricultural production and the establishment of comfortable and happy homes are unsurpassed. We know that through the proper equipment of their agricultural colleges and experiment stations other States equally backward in the development of their agricultural resources and without our natural advantages have secured profitable returns and have materially increased their farm values. We know that at the present time there is urgent need for Maryland to take a like step, if we are to assure her future prosperity and agricultural progress.

No other agencies than her Agricultural College and Experiment Station are better fitted to carry on such work. We do not need to go out of our own State to prove this. We need but to turn to the record of results accomplished with the meagre appropriations so far allowed for their use. In the present year, a wheat grower by using improved seed provided him increased his crop of grain six bushels per acre and cleared $200 on a 32-acre field over another of equal size planted to an unimproved variety. Of the fifty thousand farms in Maryland, fully one-half could improve their wheat yield to an equal extent; an increased return from our annual wheat crop of $5,000,000 would seem worth while. A dairyman spent $1 per head in having his 30-head of cows tested for production and will clear $300 more than he did last year. There are over 150,000 dairy cows in Maryland with a farm value of over $6,000,000, yet by careful testing and the introduction of improved methods their annual output could be conservatively increased $1,000,000. A fruit grower by investing $2,000 in preventive measures, under the direction of the Horticultural Department, secured a peach crop worth $30,000 that would otherwise have been a total failure, yet for all the activities of the Horticultural Departments of the College and Experiment Station, you have seen fit, through you Legislature, to provide barely $26,000 for the work of these departments.

We have every year in Maryland 200,000 young people in our rural communities to educate in the needs and pleasures of country living. Of these, at least one thousand should be at-

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Money devoted to agricultural development is an investment. not an outlay.

tending their Agricultural College, fitting themselves as well-paid leaders in meeting the needs of our growth and development. Last year 304 of our promising young people went to colleges in other States for their education. They paid on the average for tuition and additional expenses $100 extra a year, which added to the $300 a year which is the average total cost for a student at your Agricultural College and multiplied by 304 foots up to $121,600, which was spent *out of the State* on the education of our young people. With a fully equipped College of Agriculture, Domestic Science and Rural Arts, at least 30,400 might have been entirely saved and the balance kept within the State. With a maintenance appropriation of $100,000 a year your College could educate not only the 304 who went without the State, but train 700 more as well to meet our needs and have our interests at heart. Everyone of our young people is needed in Maryland's development. As our greatest resources we should make immediate and permanent provision for them.

Those who have studied our agricultural conditions believe that the State can well afford to give at least *one million dollars* for an equipment and spend at least $100,000 *annually for the maintenance* of the several lines of work required. Appropriations for agriculture and agricultural development are for *creative and constructive* purposes. Most appropriations are purely consumptive and yield no returns whatever. For this reason we ask such an appropriation for your Agricultural College as a business proposition, and in the belief that it will ultimately be the means of a larger development of the agricultural resources of the State that will greatly increase the State's revenues and prove to be a most profitable investment. We believe that this Legislature should make provision for appropriating the entire amount, but that the payments should be distributed over a period of five years, so that broad and comprehensive plans can be made which shall provide for the needs of the institution for fifty years to come.

To make this appropriation, we need *not* increase the taxes, but should this be the only source available, it would amount to less than $1 per year for five years for the average farm. If our farmers applied the information sent out by their Agricultural College and Experiment Station and if this institution were thoroughly equipped to carry the results of their work to the farmer where he could *see* and *use* them, this small tax bill would come back to him and to every citizen of Maryland many fold. Agricultural prosperity means prosperity for all. Let us have through a greater Agricultural College a greater agriculture, and through a greater agriculture, a greater State!

H. J. PATTERSON,
President Maryland Agricultural College.

December 12, 1913.

WHAT OTHER STATES ARE DOING

THE largest undeveloped resource of Maryland is agriculture and it is the business of the Agricultural College to lead in its development. There is no enterprise in which the State can put its money that will return larger yields in a material way, as well as in the good health, the comfort and the general well being of its people. The man in the city is as much interested in this investment and its resulting development as the man on the farm; more if anything, for the man on the farm must feed the man in the city.

In asking our Legislature for a million-dollar provision, we are guided by the record of practical results in other States and the willingness of our Legislatures in the past to provide liberally for the State's educational needs when they demanded such provision. The State thought it could afford to give $600,000 and an annual appropriation of $50,000 to Johns Hopkins University for a School of Technology. It gave $600,000 for a new Normal School. These appropriations are beyond criticism. They were wisely made and the money was well invested. At the same time, however, if the State could afford to appropriate to the extent it did in these directions, it can surely afford to invest a million in the upbuilding of its agricultural interests.

It has been through the efforts of the University of Wisconsin that Wisconsin has developed into the great dairying State that it is. After New York soil became depleted by mismanagement, Cornell University through its College of Agriculture *made* the horticultural interests of the Empire State what they are. Ohio and Iowa have become leaders in live stock production through the efforts of their Colleges of Agriculture. Let us see what provision these and other States have made for the work of their Agricultural Colleges and Experiment Stations.

STATES COMPARABLE TO MARYLAND IN FARM VALUES.

STATES	Money Invested in their Agricultural Colleges	Cents Invested on $1,000 worth Farm Property	Annual State Approriation	Cents App On $1,000 Worth Farm Property
Georgia	$398,000	$6.13	$50,000	$.21
Mississippi	1,324,000	6.49	142,000	.69
West Virginia.	1,120,000	5.51	138,000	.68
Massachusetts..	1,244,000	6.83	101,500	.55
Maryland	400,000	1.95	16,000	.07

Not to spend is the economy of poverty; to expend wisely and then liberally is the economy of wealth.

Everyone of the above States, with the exception of Massachusetts, which does not begin to compare with Maryland in agricultural possibilities, has increased the value of its farm property in the past ten years from 50 per cent. to 100 per cent., leaving Maryland with only a few thousand increase to her credit. No State in the Union in fact with agricultural resources comparable to Maryland has done so little for her Agricultural College or for agricultural education. Delaware, New Hampshire, New Jersey, New Mexico and Vermont, none of which begin to equal Maryland in farm values, are the only States investing less in their Agricultural Colleges than Maryland. Little Rhode Island, with a farm valuation hardly a quarter of ours, yet finds it profitable to invest more liberally than we. When we consider that Maryland was a pioneer in the establishment of an Agricultural College our present position is especially humiliating.

States Where Prosperity Abounds.

Wisconsin is known as a great dairying State and a model of rural progress. Her people invest $1,049,000 *a year* in their Agricultural College and Experiment Station. They have an Agricultural Building that cost $150,000, a Horticultural Building costing $50,000 and a Dairy Building rated at $45,000. In ten years, as a result, the value of their farm lands and annual farm production have nearly doubled. Ohio is noted far and wide for her live stock interests. Her people invest $1,199,000 a year. They have provided buildings for her Agricultural College as follows:

Biological Building	$125,000
Horticultural and Forestry Building	150,000
Agricultural Building	100,000
Live Stock Building	80,000

As a result, their annual production has increased in ten years from $141,943,986 to $215,250,975.

Kansas has developed into a wheat and alfalfa State second to none. Her people invest $1,500,000 annually. They have recently added a *new wing* to their Agricultural Building at a cost of $125,000. The value of their farm property in the past ten years has increased from $864,100,286 to $2,039,389,910. Kansas spends more money in entertaining a thousand of her farmers at her Agricultural College during Christmas Week than Maryland allows for her College for the whole year.

Oregon sells her Hood River apples (no better than Maryland grown) across the continent. Her people invest $275,000. In ten years their land values have trebled and their annual production more than doubled, leaving Maryland far behind.

The development of the state and its resources is the best defence against the crushing burden of the dependents.

The people of Michigan have realized that their Agricultural College must lead in the agricultural development of the State and to this end must be permanently provided for. Their institution is provided for in the State Constitution with an average income of half a million dollars and with a board of trustees elected biennially by the people themselves. They have recently erected an Agricultural Building at a cost of $175,000, and have plans definitely laid and provided for ten years to come.

In a recent news item, we find the following:

"Pennsylvania State gets $1,226,000. This appropriation overtops all sums heretofore received by this institution, as well as others in the state. This guarantees the future of the Pennsylvania State College as the educational institution of Pennsylvania and places it in the front rank of similar colleges in other States."

Science Hall, ($27,000) Maryland Agricultural College, Houses all Departments of Agriculture, Horticulture and Sciences.

Out of this fund Pennsylvania will provide a Horticultural Building at an estimated cost of $125,000, in addition to an Agricultural Building previously erected and costing $100,000.

Now let us see what Maryland has given her Agricultural College for its working equipment. In 1894 a gymnasium and library building was erected with a valuation of $12,000, which is at the present time totally inadequate for any up-to-date institution desiring to provide for the physical welfare of its

The only investments that make us stronger and better as a people, are those that go into the developing of the industries of the state and the higher education of the best people.

students. Pennsylvania State College has been provided with moderate gymnasium facilities for her students at a cost of not less than $50,000.

In 1897 a chemical building was erected with a valuation of $13,000. The work of the Chemical Department has far outgrown these quarters and when we consider that the work of the State Chemist and his assistants, whose offices are here, saves to the State annually many thousands of dollars in the protection of farmers against the adulteration of fertilizers, feeds and lime, we can hardly be blamed if an appropriation for a chemical building seems most necessary. Missouri, which ten years ago was in Maryland's class in her farm valuations, is putting up a building worth $100,000 and devoted entirely to *Agricultural* Chemistry. *Missouri has been shown.*

In 1898 Science Hall, with a valuation of $27,000, was erected, and to this day houses under one roof the Departments of Agriculture, Horticulture, Entomology and General Science, beside recitation rooms for classes in languages and civics. Compared to this, see what Massachusetts, a State far inferior to Maryland in her agricultural resources, has done for her Agricultural College in the past few years. She has erected the following buildings:

Horticultural Building	$40,000
Botanical Building	45,000
Floriculture	34,000
Entomology and Zoology	85,000
Dairy Building	80,000
Live Stock Pavilion	30,000

Add up the cost of these buildings and we have $314,000 against $27,000 invested in the housing of the Departments of our Agricultural College, which are directly concerned with its most important lines of work. Yet, three years ago, Maryland sent a stock-judging team to Chicago that won the championship silver cup. This year Maryland won fifth place in a like contest, losing by close margins to Nebraska and Iowa, and coming in ahead of Pennsylvania, Ohio and New York. Considering the poor equipment of our Agricultural College, such results speak well for the quality of instruction given.

Maryland has practically nothing provided her for educational work in Poultry Keeping. The main building of her poultry plant has been recently reconstructed at a cost of about $2,000. Cornell University has just supplied its Agricultural College with a poultry building costing $90,000. Last winter after the fire, which destroyed our dormitories, provision had to be made for lecture rooms for our Short Course students. As a result, the old stables at the Experiment Station were re-

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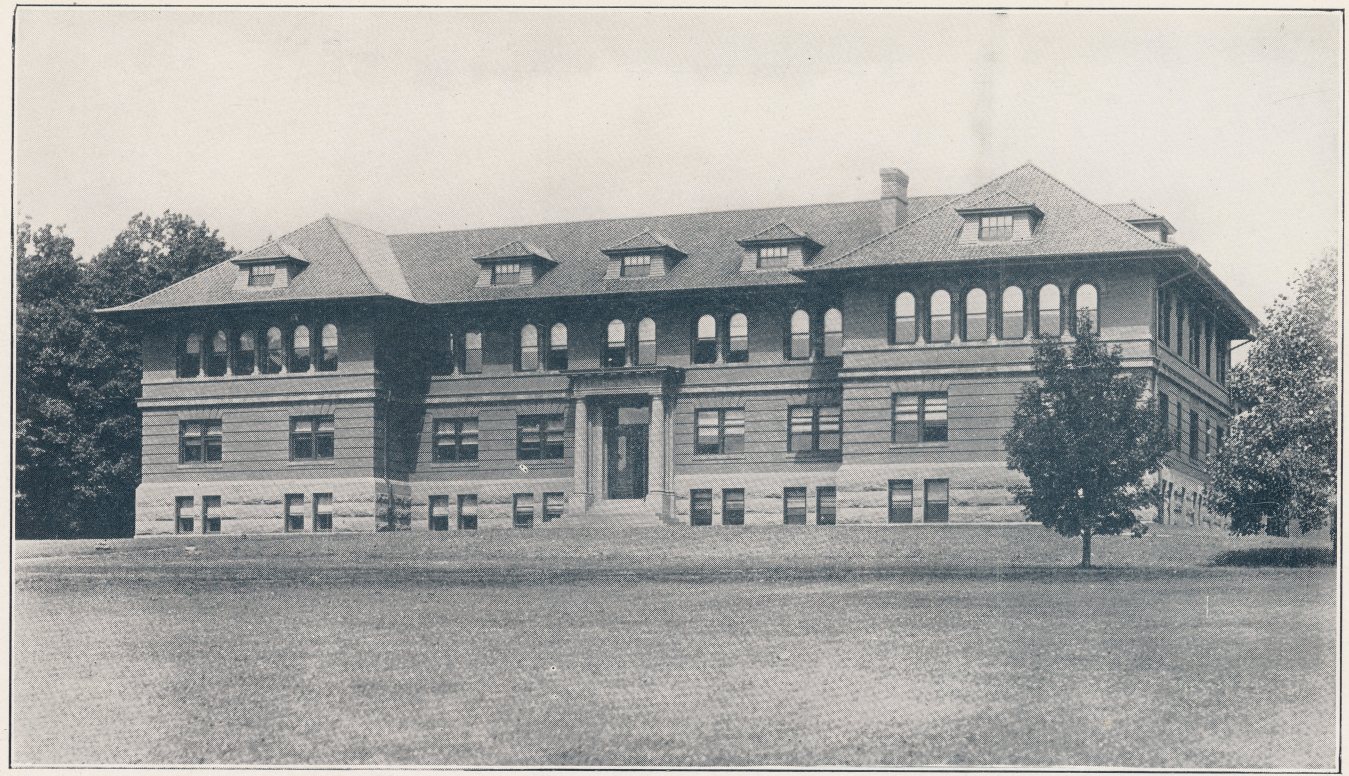
We have faith in our Agricultural Colleges, for sooner or later OUR WORKING FARMERS WILL LEARN HOW TO CONTROL THEM AND MAKE THEM DO THE WORK WHICH IS REQUIRED.



Pennsylvania State College $100,000 Building for Agriculture Alone.

modeled at an approximate cost of $5,000, providing a lecture room, a demonstration room and much needed laboratories for the rapidly extending work of the Experiment Station. This building also houses the laboratory for the production of hog serum and the seed testing laboratory. Yet, with this poor equipment, the Agricultural College is offering during the coming ten weeks, beginning January 5, a series of practical short courses unequaled in the value of their application to the daily needs of Maryland farmers and home makers.

Soil and Fertilizers	January	5-10
Farm Crops	"	12-17
Domestic Science	"	12-17
Poultry Husbandry	"	19-24
Horticulture	"	26-Feb. 7
Animal Husbandry	February	9-28
Farm Machinery & Farm Engines	March	2-7
Farm Carpentry & Blacksmithing	"	9-14

No provision whatever is made for the instruction of our women in Domestic Science and Rural Arts. Yet everywhere these courses are being established and the needs of the young women of the State provided for. Cornell University has just erected a Domestic Science Building at a cost of $154,000; Wisconsin one for $118,500, and South Dakota, still reckoned one of the backward States in providing for the needs of her Agricultural College, recently erected a Woman's Dormitory at a cost of $53,000.

Maryland's resources are barely touched or known. The first-class equipment of her Agricultural College and Experiment Station is the key to their development. The coming Legislature should place them on a sound basis and guarantee our agricultural future. The distribution of one million dollars covering a period of five years as follows should provide a working plant worthy of the service it must perform.

Money devoted to agricultural development is an investment, not an outlay.

Approximate Amounts Needed for Building and Equipment.

Improvement of Grounds and Roads	$20,000
Spur Track from B. & O. and Electric Railroad for both Passengers and Freight and Equipment	30,000
Agricultural and Animal Husbandry Building	75,000
Horticultural, Forestry and Canning Building	100,000
Gymnasium and Armory	75,000
Chemical and General Science Building	75,000
Administration and Auditorium Building	100,000
Library	50,000
Home Economics and Practical Arts Building	75,000
Dormitories	200,000
Dining Hall for Men's Group	50,000
Increasing Engineering Department for Heating and to provide for Agricultural Engineering and Mechanics	50,000
Fire Protection, Water Engine and Hose Service	25,000
Athletic Field and Grand Stand	15,000
Student Practice Farms	50,000
Remodeling Old Buildings	10,000
Total	$1,000,000

Divided into five equal payments covering a period of five years.

Annual Appropriation.

For maintenance, facilities for instruction, employment of teachers, insurance, repairs and running expenses of plant equivalent of one cent on each $100 of taxable basis, or about $100,000 per year, to begin at $50,000 and increase $10,000 a year until the amount shall reach $100,000.

Not to spend is the economy of poverty; to expend wisely and then liberally is the economy of wealth.

THE EXTENSION SERVICE

THE value of any business investment is determined quite as much by the results already obtained as by those which are expected from it in the future. We should know something of what the work of the Agricultural College and Experiment Station is and what they are accomplishing before we invest in them. What are they doing for us now—today? For one thing, they carry on experiments with soils and live stock to discover improved and more profitable methods of handling them. They publish these results in bulletins which are furnished freee of charge to all who apply for them. They aim by timely press notices and by every means of publication possible to keep our people informed of helpful and timely facts, and of troubles to be avoided in farming operations, big and little. They answer questions of every conceivable sort regarding rural life and farming problems. "What is my soil good for? What can it best produce?" are questions oftenest asked. Let us see how they would be answered. Possibly grain crops are the best adapted to the land in question. If so, the College and Experiment Station have discovered that by seed selection and improved methods of cultivation the yield of corn per acre can be increased two barrels, netting, if put in practice throughout the State, four millions of dollars per year in increased income to corn growers. The carrying of such information direct to the farmer and helping him to put it in practice is the work of the Extension Service.

Let us see how this work is carried out. A farmer comes to them for information. They answer his questions as plainly and as intelligently as possible from what they know of the section he lives in. They give him simple directions for seed selection and cultivation. Then, if he wishes it and they have means and working force to permit of it, they do what is worth all the answered questions and written information in the world, and they visit the farmer, talk over his troubles, help him to start improved methods under their supervision and keep in touch with him until he is well on the road to success in the improved and more profitable production of his corn. With another farmer it may be the improvement of his wheat crop, with still another oats. In every case where directions are conscientiously followed it means an added income of from one hundred to three hundred dollars on the average acreage per year. Surely such a saving is worth considering.

When the Extension Service is able to induce a farmer to improve his methods, his successful example is often imitated throughout his neighborhood with good results. Six years ago

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The development of the state and its resources is the best defence against the crushing burden of the dependents.

John Hargett, a farmer, near Germantown, came to the Experiment Station for assistance. He was in rather difficult circumstances as his barn had recently burned and his farm was not producing as it should. The Experiment Station worker in charge of field crops visited Mr. Hargett's place and induced him to sow a field to alfalfa according to his directions. Mr. Hargett was most successful with this new crop. As he is a dairyman, he was even more benefited than the average farmer, owing to the high feeding value of alfalfa for dairy cows. At the time of his making this change what grass he had had been sown with his winter wheat. As a result, he usually received a poor stand of timothy and weeds and no clover. This hay was rated third quality in the market and was difficult to dispose of, bringing seven to eight dollars as against twelve and fourteen for first-class hay. His average yield per acre was barely a ton. Since the introduction of alfalfa in his rotation, Mr. Hargett has so improved his land that by seeding grass alone in the early fall he is able to raise on the same land one and a half tons per acre of first-class timothy or clover hay, yielding him anywhere from two to three times as much in cash as it did before. He has about fifteen acres in alfalfa at the present time yielding three and a half to four tons per acre. This enables him to cut down the grain bill for his dairy herd and make a substantial profit from it. He has also been successful in the growing of winter barley and winter oats, both of which are new crops in this section, and further increase his income. The good results in Mr. Hargett's case have not ended with him, since many of his neighbors have gotten in touch with the Extension Service and are carrying on successful work in growing better wheats and introducing alfalfa and other crops as a part of their rotation.

In another case, that of Cassius Collier, of Easton, who attended the winter Short Courses at the Agricultural College, improved methods resulted not only in a greater production, but in the developing of a most profitable business in the selling of improved grade of corn and wheat for seed. Corn selected for this purpose brings Mr. Collier one dollar to three dollars per bushel and his wheats dollar and a half to two dollars. As the business has increased, he has included winter oats, soy beans and crimson clover. For the latter, there is an unusual demand for Maryland grown seed, as such seed seems to do much better than the foreign grown. This illustrates another result of the Extension Service. The developing of new lines of farm business to which certain sections of Maryland are particularly adapted. It may be also of interest to know that a large majority of the prize-winners in the corn shows in Baltimore and Philadelphia are men who owe their start in growing improved grains

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to the Extension Service and Short Courses of the Agricultural College and Experiment Station.

A most profitable branch of the Extension Service for the farmer is the organizing of cow-testing associations. These associations are designed to increase the annual production of the dairy herds throughout the State by keeping records of milk and fat production and the cost of feed consumed. Their object is to find the unprofitable cows, to introduce better methods of feeding, to give advice and assistance in the care and management of dairy cattle and the production of dairy products. These associations organize themselves according to the articles and by-laws published by the Dairy Division of the United States Department of Agriculture. Each member of the association pays a membership fee of 25 cents and $1.00 per year for each cow tested. He alsc boards the tester who visits his farm one day each month.

A Record Breaker.

The tester, who is usually an Agricultural College graduate, arrives at the farm in the afternoon. That evening he weighs and takes a sample of each cow's milk. The next morning he agains weighs and samples the milk of each cow. After the morning milking, he tests the samples of milk for fat according to the Babcock method. While at the farm, the tester weighs the feed consumed by each cow, and estimates the cost. He also determines the value of the milk or fat. From these results he calculates the profit or loss for the month. Further than this, he calculates the returns yielded for one dollar expended for feed; also the cost of producing 100 pounds of milk and the cost of producing one pound of butter fat for that month. He leaves a duplicate of his findings with the farmer and proceeds to the next farm.

When at the farm the tester gives advice and assistance in the care and management of dairy cattle, calf feeding, the kinds of crops best suited for milk production and the best methods of handling dairy products. Through the Extension Service the Agricultural College and Experiment Station, also give personal attention to problems that may arise throughout the State, such as the building of silos, construction of barns, dairy buildings, ice houses; also the organization of cow-testing associations and breeders associations.

An example of the good results obtained from membership in a cow-testing association is found in the record of the herd

of James W. Beacham, Jr., of Avondale, for two years. When the record was started in June, 1910, there were 26 cows in the herd. During the first year nine cows were disposed of as unprofitable. This is slightly more than one-third of the herd. In the first year's work the estimated yield of milk for twelve months was 4,441.9 pounds, containing 181.1 pounds of fat. The average cost of feed per cow was $51.80 and the profit per cow $22.93. The records for the second year show an average increase in milk production per cow of 2,882.9 pounds, with a fat increase of 128.6 pounds per cow. The increased value of the product per cow was $72.42, while the price of milk was only 2.3 cents higher per gallon. The average profit per cow for the second year was $76.79, an increase of $53.86. The returns for one dollar expended for feed increased 58 cents during the second year. The cost of production was also lower, there being a difference of 4.5 cents in the cost of producing one pound of fat and a difference of 11 cents in the cost of producing 100 pounds of milk. The striking increase in the profits for the second year are due to the elimination of unprofitable cows during the first year.

Looks Are Sometimes Deceiving.

We are often asked for figures showing the practical results which farmers have secured through our extension work. We are usually handicapped by the lack of complete records and accounts as kept by the farmer. Too often the final price obtained for his crop rather than the exact cost of producing and marketing that crop appeals to him. Often the demonstrator is unable to see his demonstration to its finish, as he is needed elsewhere in response to other calls for assistance. In such cases we can only roughly estimate the improvement resulting. Occasionally, we are able to secure exact figures that show most astonishing returns for the amount invested in improved methods. The success of the peach orchards of J. G. Harrison & Sons at Berlin during the past season is a case in point.

The only investments that make us stronger and better as a people, are those that go into development of the industries of the State and the higher education of the best people.

During the season of 1912 these orchards produced practically nothing on account of the ravages of the Brown Rot, a disease that attacked the fruit soon after setting. In the spring of 1913 the orchard set a crop of fruit and shortly after the blossoms fell, Brown Rot put in its appearance, attacking the fruit before the calyxes dropped off. At this time the firm appealed to the School of Horticulture, Maryland Agricultural College, and it was decided at once to conduct a demonstration in this orchard in spraying with the self-boiled lime-sulphur solution and arsenate of lead to protect the fruit from this and other diseases and curculic injury. The firm was willing to

$25,000 Worth of Peaches Saved.

provide the labor and materials, and Mr. W. C. Travers, assistant in the department, superintended the demonstration.

The orchard consisted of about 10,000 trees planted on less than 100 acres of the following varieties: Carmen, Ray and Elberta. Five sprayings were applied, as the orchard was badly affected and weather conditions were favorable to the development of the disease. An accurate account as possible was kept of the expenses, and the following is the result of the demon-

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stration, which, of course, is highly gratifying to the department as well as to J. G. Harrison & Sons.

The shipments were as follows: 20,214 half-bushel baskets, or 31 cars of 640 baskets each, and 374 baskets over; 12,089 carriers, six gallon, making 30 cars of 400 carriers each, with 89 carriers over. This makes a total of nearly 62 cars, or 19,174 bushels.

The highest price for which first grade peaches in six-basket carriers sold for net, f. o. b. Berlin, was $2.09; the lowest price, $1.25. The highest price paid for one-half bushel baskets, first grade peaches net, f. o. b. Berlin, was $1.05 per basket; lowest price, 60 cents.

The total net sales of peaches was $35,165.53, which would make an average price per bushel, including all grades, soft peaches, sold locally, etc., of $1.83.

The first full car was loaded on July 18; the last full car was loaded on August 22.

The expense we had in growing this crop of peaches, picking, packing it and loading on the cars was as follows:

Plowing, cultivating, etc	$ 776.37
Fertilizing, seeding, etc	60.50
Pruning, etc	395.71
Spray material	1,528.95
Spraying, labor, etc	704.72
Cost of carriers	2,058.73
Cost of baskets	1,085.90
Labels	38.25
Cushions, pads, etc	149.00
Harvesting, loading, hauling	2,286.06
Icing charges on nine cars consigned on own account	242.50
	$9,326.69

Total receipts	$35,165.53
Total expenses	9,326.69
Net profit	$25,838.84

The results as shown are a striking illustration of what extended demonstration work done by the Agricultural College may mean to the people of the State. A very interesting sidelight that does not figure in the above statement, yet which might have had a disastrous effect on the result, was that in the middle of the demonstration Mr. Travers was ordered elsewhere by the school in answer to urgent demands for assistance in other parts of the State. It was only through the insistence of the Harrisons that he be allowed to finish the job and get the full credit or blame, as he deserved, that Mr. Travers was allowed to remain. This condition is too often true in the dem-

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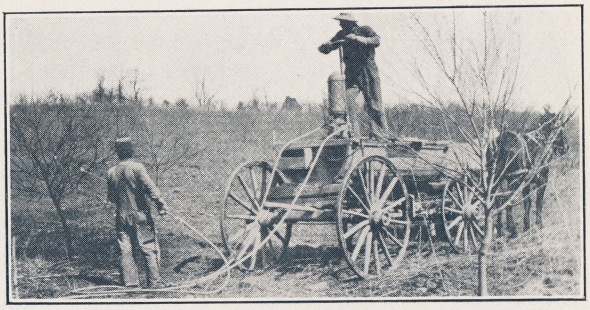
onstration. A really able man who is producing results (on a certain farm or in a certain neighborhood) is rarely able to more than start a demonstration before, through the pressure of other demands for his services, he is ordered away to another field without being allowed to see his job through. This often discourages a promising worker, as he gets only partial credit if the demonstration is a success, and, again, full blame if it is a failure. Often, if he were there at a critical period in the work, he could by attention to some overlooked detail have turned the tide in his favor, reflected credit on his institution and established the confidence of the people interested in his work. Until we can be so equipped as to do a job thoroughly and be able to send a man out on a definite work with a certainty of his being able to stay with that work until its results are firmly established in local practice, the School of Horticulture, or any other school engaged in similar work, is going to be able to only half-way do its work and get only half-way results with an occasional exception like the above. Yet often we have our farmers wanting to know why we are so slow getting to a certain locality or in meeting a certain situation that is of vital importance to them. To speak frankly, *it cannot be done!* You can stretch and stretch an appropriation almost indefinitely, but somewhere is a breaking point, somewhere it will fail to meet the need it was meant to fill. The Horticultural Departments of the Agricultural College and Experiment Station received for their work in all branches this year in the neighborhood of $25,000. In one demonstration it saved for one of our people an equal amount of $25,000. Yet only a third of the whole appropriation is available for demonstrations, which, as we have seen, returns in this one instance 300 per cent. on the entire amount invested in such work. What this school receives the other departments of your Agricultural College receive in proportion. What this school is able to do the other departments can do and are doing. Is it worth while asking whether or not an adequate investment in such service pays?



An Agricultural Salvation Army.

Not to spend is the economy of poverty; to expend wisely and then liberally is the economy of wealth.

MARYLAND SHOULD PROVIDE

"The mission of the Agricultural College is to see that no furrow is left unturned or neighborhood left unvisited that is capable of greater production or a fuller life."

We need to awaken to things as they are. We need to realize that in the scientific development of the agriculture of Maryland lies her surest hope of future prosperity. We need to know that through the adequate equipment of her agricultural college as its directing force this development can be best obtained. Such a college as we have in mind will not be content to educate the few young men and women who can afford to come to it. Such an experiment station as we are planning for will not be limited to one locality or the needs of any one set of our farming people. We need to lay the foundations for an institution that will really meet the State's agricultural needs for the next fifty years, that will be equipped for educating a thousand of our most promising country-bred young men and women yearly, that will have facilities for carrying the results of its investigations out to the farmers on our fifty-thousand farms and demonstrate better methods at every cross-roads.

It is a humiliation which comes to us daily that we must refuse to comply with requests for assistance or neglect to do work which we see should be done. What we want—what we need—is a genuine Extension Service. We want to conduct demonstrations of of new and better methods of agriculture in every section of the State. We want to develop our College so as to give young men and women an opportunity to fit themselves to be more efficient in their work, to be live community leaders. We want to develop courses which will reach directly or indirectly everyone of the 75 per cent. of children in the country districts who must be satisfied with the education the rural school gives, to help them to increase their earning capacity, and also to see the beauty and get pleasure out of the things about them. We want to do a work that will aim to make the future farm home, even more than in the past, the place for rearing the highest types of men and women.

Hoping for Better Conditions on the Farm.

Money devoted to agricultural development is an investment, not an outlay.

Farmer Should Receive More.

We want to develop an institution of service carrying education direct to the people, making its investigations useful in everyday life, and doing all phases of work demanded of it. Such an institution must be equipped to do its work. It must be organized in all branches that deal with rural problems. It must point the way to the most profitable forms of farming for its people. We people of Maryland are especially favored in soil and climate for the raising of things for men to eat, the most profitable kind of farming known today. We have 10 million consumers within our reach in the cities of Baltimore, Washington, New York, Pittsburg, Philadelphia and many other smaller, but none the less inviting, markets for choice table products. Yet these consumers do not always get their dollar's worth of food or the farmer half the dollar he earns in producing it. Why? Because we do not raise enough of one kind of a thing in a neighborhood. Because we do not, as a rule, prepare and pack our produce as carefully as we should. Because we do not know where or how to market it to the best advantage. Because we do not have enough good roads to deliver it over or enough convenient centers to deliver it to.

Develop Our Production.

We need direction. We need investigation. We need more knowledge of local conditions. To carry on this work we need strong departments in our college. We need a Department of Agronomy and Animal Husbandry to aid in determining better methods of soil improvement, better methods in caring for and feeding farm animals, and better methods of preparing their products for consumption. We need a strong Department of Horticulture. Through its influence Maryland can be made the leading fruit State of the East. Lands that now are worth $200 and $300 in the Far West, because of their being set in orchards are not equal in fertility to those of our own State valued at $20 to $30. Maryland's horticultural possibilities are among her most promising. Furthermore, this western fruit is 2,000 miles distant from its market; ours is only 200 to 300 miles. There is only one conclusion that we can draw. Develop these possibilities.

Improve Our Returns.

This leads us to yet another field—the selling of the products we have grown. We need a Department of Agricultural Eco-

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nomics. This department will make a study of markets. It will find out better methods of distribution. It will find means of using our waste products to advantage. It will work out practical methods of co-operation on production, transportation and distribution. It will turn out men trained to organize community centers. It will have to be placed in a position so that it can send trained men—men who can command high salaries—into localities that need them to stay there a few months, or, if need be, some years, until the business of that locality is on a sounder and better-paying basis. If a five-thousand dollar man is needed for one, two or even three years to accomplish such a work, we need to have the means to put him there.

We Need Engineers.

We are asked what an agricultural college is doing with an Engineering Department when another institution has been endowed to handle this work. We reply that the country is as much in need of engineering as any other line of business. We need men trained for rural engineering. We have thousands of acres of farm land to drain; we have countless little streams that, properly harnessed, would furnish the farmer with light, heat and power that would do away with much of his drudgery and lessen his expenses. We have many problems in farm machinery and farm building to work out. The men to handle these problems should be men trained especially for them. We want men trained for road, instead of railroad building; for building barns, rather than office buildings; for planning farm drains, instead of canal building. The builder of a sky-scraper is, no doubt, a highly trained and efficient man, yet, would we hire him to build us a barn, a silo, or some other farm building needed for purposes of which he knew nothing? Again, there are many problems little in themselves, but taken in the aggregate, they are far-reaching. How many of us know how to make or buy a durable plowshare? Where would we go to learn? There is no place where we can be taught, yet there are thousands upon thousands of plowshares in use, and no one has taken the trouble to find out how durable one can be made, or how they will last in different grades of soil. This is but one instance of how we need to get out into the daily life of our farming people, studying the little things and the big things, finding means of saving them strength and money, giving them better chances for better returns.

Keep Maryland in Lead.

Maryland ranks first among the canning States. If she is to hold her place she must be wide-awake; her canning methods

must progress; her canners must keep up with and ahead of the times. Thanks to Dr. Wiley, the use of preservatives is a thing of the past. The canner of today must depend on the knowledge he may have of growing, picking and handling his product. He must know what to advise his growers as to the varieties to plant, as to the fertilizers to use, as to the methods of cultivation to employ. He must know the chemical and bacterial processes of working his product into cans. He must know the approved mechanical methods of handling the crop in the factory. He must be a student of the canned goods market, when to buy, when and how to sell, and of how he can improve the attractiveness of his finished goods. In short, he must be an all-around man, but first, a trained, an educated man. Such is the man that will be wanted—that is wanted. Such a demand was made by an enterprising capitalist. He wanted ten such men. He was assured that he couldn't find one. None to be had. There weren't any. This is OUR OPPORTUNITY. This is OUR CHANCE to place Maryland in the first position of the canning States permanently, and make your college the training school for such men.

Reaching the Country School.

We are needing teachers of agriculture in our public schools. We are even now establishing a Department of Agricultural Education to train such teachers, and bring us in touch with every rural school in Maryland. The extension work of this department will make possible for our country school teachers the better teaching of that vast majority of children who never get beyond the graded school for country life and for the bettering of their neighborhoods. Our Maryland teachers are only too glad of help and co-operation in making their work more attractive. We should be able to give them every aid possible in this, our most important work, the training of our future rural manhood and womanhood.

Help for Our Help-meets.

We need educational facilities for our Maryland women. We have 300,000 homes, yet not one school to give them better training in home-making. We have schools and colleges training them for many things, yet after all 90 per cent. devote a large part of their time to the building of our homes and the rearing of our children. Do not think for a moment that our women are not awake to their needs. Our annual weeks' short course in Domestic Science has demonstrated their wishes and appreciation beyond any doubt. They know that the life of the mother

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is, after all, the greatest we know. They know that for it they need as careful training as the man for his work. They know that progress is being made in the methods of home-building as well as farm building. They want for their daughters what they did not have, what they cannot give them, a training in home-making as a science.

Learning by Doing.

Country High School.

We need student practice farms where new and better methods can be learned by application. We need a a place where the city boy or man can be broken in to what farming really is, without the disappointment and failure that is now his lot. No farmer will give the time or have the patience to give such a student the needed instruction he must have. If he learns practically at all, it must be by being bright enough to see and reason out what he should do as the work proceeds. The farmer cannot afford to have him make costly mistakes, or do his work poorly. When we hear from a young man who has planned on paper how he will establish a poultry plant with $300, and in six weeks be gettting from it an income of $150.00 per month, we ought to have a place where we can give him a chance to show what stuff he has in him without his disgracing an otherwise good piece of land with broken-down chicken houses and unhonored notes. We need these farms, too, for the country boy as places where he can satisfy himself more thoroughly of the desirability of a certain practice, and have him stick to it when he gets back home.

Reaching the People Back Home.

Which brings us to the final object of all this work—REACHING THE PEOPLE BACK HOME. This is what we mean by real Extension Service. Carrying right into practice on the home farm the results of our investigations and providing men and women trained to bring them to successful fruitage. We

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hear often of so-called model farms in various communities, places where farmers can be shown how to farm. Such farms are usually failures, for the simple reason that the State is backing them, because the farmer cannot be convinced that they stand on their own merits. He appreciates infinitely more having such results carried out on his own place and with his own means. Then he knows there is something to such teaching and methods. Then he appreciates that the College really can do something worth while for him. We want our demonstrations to reach many instead of a few.

We want our farmers to see improved crops growing wherever they may pass, at every cross-road. We want the lesson of improved production, of improved marketing, of co-operation in neighborhood and home improvement driven home and clinched in every form. We want to carry traveling schools for adults—for the farmer and his wife—into every neighborhood otherwise unprovided. We want something better than the one-day institute. We want to be able to stay long enough with our people to get acquainted, to learn their problems, to return from them satisfied that we know better how we may help them. These methods put in practice would mean an increase of $1,000,000 to $5,000,000 a year to the State in the increase of the value of farm produce. Six to eight barrels of corn to the acre is an average yield for Maryland, yet many of our farmers are far from content if they get less than 14 barrels. An average increase is possible and would mean $4,000,000 more to them as a whole.

What we can do in helping them to increased production we can also duplicate in increased returns from better methods of marketing and transportation, in better ways of living and making our neighborhoods more and more to be desired as places in which to live. In a thousand ways we can be of service to our people. The opportunity lies at our doors. We should have the means to make this institution one of real service to the people and the State.

Money devoted to agricultural development is an investment, not an outlay.

A WISE INVESTMENT.

We are wiser than we used to be. At least, we hope we are. We don't buy a cow any more with the idea of getting *some* milk from her. We buy her to get *all* she will produce. By the same token, we don't feed her as little as we can. We feed her just as much as she will use *profitably*. We don't feed her anything she happens to want or anything we happen to have. We study what our cow *needs* and how much. Then we give it to her. Then we get profitable results. If we don't, we get rid of the cow.

How about our Agricultural College. We bought it a good many years ago. We have been giving it all this time just enough to keep it alive. We have been content to have it producing *some* students and *some* results. We have been feeding it just about as much appropriation scraps as we had lying around handy. Perhaps, we have been looking upon it as something we had to support instead of as an *investment* that should pay us good interest *on our own farms*. Well, some people feed their cows on just that principle. Isn't it about time we began to study what the needs of our Agricultural College are? Isn't it worth our while to consider whether or not a little better feeding with an eye to returns, will pay us? Isn't it sound reasoning that a college that will produce good results with such treatment is worth taking care of *right?* Think it over! Then act!

A STRONG AGRICULTURAL COLLEGE.

A PROFITABLE STATE INVESTMENT.

H. W. COLLINGWOOD,

Editor The Rural New Yorker.

A strong and active *agricultural college* is the *backbone* of any State. Other institutions may be called its brain or its heart, but that which stands for farming is its backbone. All wealth comes out of the ground. The last resort of society is in the soil, and that resort should be properly fitted for its occupants. The Agricultural College tells farmers how to make $30 land pay interest on $150 valuation. No other institution in the State does this with any Maryland property. The College also develops the man as well as the soil, and the best citizen is the small or medium-sized freeholder. As a matter of *plain business,* the College should be liberally equipped and supported. There can be no wiser State policy.

L. H. BAILEY,

Former Dean Cornell University.

Your people should know what may be accomplished by an enlarged College of Agriculture and Experiment Station. Such institutions mean not only the application of knowledge and skill to the operations of farming, but also the development of the ideals of country life. The people will secure from any institution or enterprise in the long run in proportion as they put money and effort into it. The development of agricultural institutions is one of the most striking movements of the times, and, in my estimation, it is absolutely *essential* to the progress of any commonwealth.